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CLAIMS

We claim:

1. A network system providing a home network between at least a first customer premise device and a second customer premise device within a customer premise, the system comprising:

a first digital subscriber loop modem in communication with the first customer premise device; and

a second digital subscriber loop modem in communication with the second customer premise device, the second and first digital subscriber loop modems in communication over a common wiring connection; and

the first and second digital subscriber loop modems provide a network connection between the first and second computer devices within the customer premise;

wherein the home network accommodates DSL connections with the telephone company central office during home networking sessions.

- 2. The invention of claim 1 wherein the digital subscriber modems utilize a duplex communication channel between them.
- 3. The invention of claim 1 wherein the network connection between the first and second digital subscriber loop modems utilize the digital subscriber loop frequency spectrum to communicate between the first and second computer devices.
- 4. The invention of claim 3 wherein the spectrum used for home networking is contained within the power spectral density mask used for DSL connections.

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5. The invention of claim 3 wherein the portion of spectrum used for home networking that corresponds to the DSL downstream spectrum is a function of the received power in that spectrum measured during previous DSL connections.

- 6. The invention of claim 1 wherein the home networking initiation and connection signaling does not invoke a DSL connection attempt.
- 7. The invention of claim 1 wherein the G.hs protocol is utilized to establish the network communication session.
- 8. The invention of claim 7 wherein the G.hs signaling would be performed over a set of tones specifically for home networking session establishment.
- 9. The invention of claim 7 wherein one consumer premise modem initiates a home network connection by signaling with the central office DSL modem and other consumer premise modems decipher the communications but do not participate in the establishment of the network connection.
- 10. The invention of claim 9 wherein the flag signal comprises of a 'no common mode' selection in a mode select message followed by a non-standard information field pertaining to establishing a home networking connection.
- 11. The invention of claim 1 wherein timing cormally provided by the central office modem is provided by a consumer premise modem during a networking session.

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5. The invention of claim 1 w

- 12. The invention of claim 1 wherein the digital subscriber loop protocol comprises a G.lite protocol.
- 13. The invention of claim 12 wherein a timing signal is provided in the absence of a downstream pilot.
 - 14. The invention of daim 13 wherein the DMT carrier 16 provides the timing signal.
- 15. The invention of claim 1 wherein the digital subscriber loop modems provide an Asymmetric Digital Subscriber Loop System.
 - 16. The invention of claim 1 wherein the central office comprises a node on the network.
- 17. The invention of claim 16 wherein the central office modem addresses a network connection to a particular home network modem using G.hs.
- 18. The invention of claim 1 wherein the first and second digital subscriber loop modems recognize the initiation signals for a digital subscriber loop connection from the central office DSL modem.
- 19. The invention of claim wherein the first and second digital subscriber loop modems recognize the initiation signals for a digital subscriber loop connection from the customer premise DSL modem.

20. The invention of claim 1 wherein the first and second digital subscriber loop modems are restricted to transmit at a reduced transmission power level to accommodate digital subscriber loop connections with the central office.

5 21. A local area network within a customer premises utilizing digital subscriber line equipment normally used for providing a digital subscriber line, comprising:

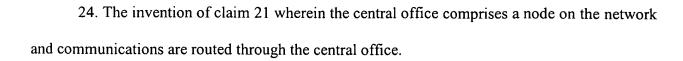
a plurality of customer premise digital subscriber line modems providing communication between computer devices;

- a first digital subscriber line modem providing communications with a first computer device; and
- a second digital subscriber line modem providing communications to a second computer device;

wherein the first and second digital subscriber line modems communicate to each other to provide the local area network without requiring communications be routed through the central office.

- 22. The invention of claim 21 wherein the first and second digital subscriber line modems utilize the existing DSL frequency spectrum to communicate data over the local area network.
- 23. The invention of claim 21 wherein the first and second digital subscriber modems utilize a duplex communication channel between them.

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739 K' 25. A local area network providing a network connection within a customer premise,

comprising:

a plurality of customer premise digital subscriber line modems providing communication between computer devices;

a first digital subscriber line modem providing communications with a first computer device; and

a second digital subscriber line modem providing communications to a second computer device;

wherein the network connection between the first and second digital subscriber loop modems utilize the digital subscriber loop frequency spectrum to communicate between the first and second computer devices.